عنوان مقاله:

Numerical Analysis of explosion effects on the redistribution of residual stresses in the underwater welded pipe

محل انتشار:

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نویسندگان:

.Amirhosein Bayat - *Department of Mechanical Engineering, University of Zanjan, Zanjan, Iran*

.Rasoul Moharami - *Department of Mechanical Engineering, University of Zanjan, Zanjan, Iran*

خلاصه مقاله:

Structural health monitoring of cracked structures is one of beloved subject of researchers recently. Consider of crack behavior in the water and energy pipeline is important because of environmental problems. In this paper consider of crack parameters in the underwater pipe subjected to mechanical transient load is investigated. For this purpose, threedimensional parametric model of cracked pipe has been presented for calculation of J integral values. Underwater explosion load model has been used for applying the transient load and J integral values have been obtained in circumferential and axial semi-elliptical internal cracks. Obtained results is shown that under mentioned condition, pipe isn't safe and crack grow is happening in the inner surface of crack. According to results for integrity of structure must be safe stand-off distance (distance of charge with respect to pipe) greater than previous state. .Obtained values in this paper is used for estimation of structure life and Repair and maintenance are useful

کلمات کلیدی:

Cracked pipe, Finite element analysis, Transient loading, Dynamic stress intensity factors, Dynamic J Integral